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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

VU, THONG H

ART UNIT PAPER NUMBER

2142

DATE MAILED: 03/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/020,388

Applicant(s)

SALKEWICZ, WILLIAM

Examiner

Thong H Vu

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 11/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

1. Claims 6-30 are pending. Claims 1-5 are canceled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6-30 are rejected under 35 U.S.C. § 103 as being unpatentable over Meltzer et al [Meltzer, 6,125,391] in view of Bamji et al [Bamji, 5,604,680].

2. As per claim 6, Meltzer discloses A network device comprising:

at least one processor; memory I/O, and at least one virtual network machine in the memory, said at least one first virtual network machine including a first network interface [Meltzer, a data processor, memory and programs, col 7 lines 17-24; a computer implemented by JAVA virtual machine, a network interface, col 9 lines 9-28; col 11 lines 10-col 12 line 5];

Meltzer also discloses a schema used for design interfaces [Meltzer, col 11 lines 10-20] and the bridge binding the set of internal and external services [Meltzer col 7 line 55-col 8 line 15].

However Meltzer does not explicitly detail "a first sub-interface data structure (i.e.: a program, driver, script, applet) in the memory, and a first binding data structure in the memory which binds the first network interface (or a layer 3 network interface) to the first sub-interface data structure".

A skilled artisan would have motivation to improve the design interface using the bridge binding services and found Bamji's teaching. Bamji discloses a virtual interface method and design tool which provides the function associates binding that define the virtual interface and the sub-interfaces [Bamji, col 5 lines 15-40; col 11 lines 41-51]

Therefore it would have been obvious to an ordinary skill in the art at the time the invention was made to incorporate the binding the sub-interface with the interface as taught by Bamji into the Meltzer's apparatus in order to utilize the design tool. Doing so would provide a framework which facilitates interaction amongst diverse platforms in a network.

3. As per claim 7, Meltzer-Bamji disclose the first network interface is a layer 3 network interface; the first sub-interface data structure is a layer 2 interface data structure; and the first binding data structure is layer 2/3 binding structure which binds the first layer 3 network interface to the layer 2 interface data structure.
4. As per claims 8-12 contain the similar limitations set forth in claims 6. Therefore claims 8-10 are rejection for the same rationale set forth claim 6.
5. As per claims 13-15 Meltzer-Bamji disclose eliminating the binding of the at least one network interface to the at least one sub-interface data structure, providing at least one other sub-interface data structure encoded in the electronic memory; binding the at least one network interface to the at least one other sub-interface data structure [Bamji,

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binding that define the virtual interface and the sub-interfaces, col 5 lines 15-40; col 11 lines 41-51].

6. As per claims 16,17 Meltzer-Bamji disclose providing at least one other network interface encoded in the electronic memory [Meltzer, XML encoded, col 85 lines 32-35]; binding the at least one other network interface to the at least one sub-interface data structure; wherein binding the at least one other network interface to the at least one sub-interface data structure includes creating a binding data structure that binds the at least one other network interface to the at least one sub-interface data structure [Bamji, binding that define the virtual interface and the sub-interfaces, col 5 lines 15-40; col 11 lines 41-51]; and

eliminating the binding of the at least one network interface to the at least one sub-interface data structure while leaving the at least one network interface intact [Bamji, add and remove, col 27 lines 25-45; the element filter, col 27 lines 45-54; editing user interface, col 80 lines 63-67].

7. As per claim 23, Meltzer-Bamji disclose A method of creating a link in a network domain comprising:

providing a network device including an electronic memory encoded with a first virtual network machine which includes at least one first network interface and with a second virtual network machine which includes at least one second network interface

[Meltzer, Internet and local area network, col 9 lines 45-55; XML encoded, col 85 lines 32-35];

providing at least one first sub-interface data structure encoded in the electronic memory, providing at least one second sub-interface data structure encoded in the electronic memory [Bamji, binding that define the virtual interface and the sub-interfaces, col 5 lines 15-40; col 11 lines 41-51];

binding the at least one first network interface to the at least one first sub-interface data structure; and binding the at least one second network interface to the at least one second sub-interface data structure [Meltzer, Internet and local area network, col 9 lines 45-55].

8. As per claim 19, Meltzer-Bamji disclose binding the at least one first network interface to the at least one first sub-interface data structure includes creating a first binding data structure [Bamji, binding that define the virtual interface and the sub-interfaces, col 5 lines 15-40; col 11 lines 41-51]; and binding the at least one second network interface to the at least one second sub-interface data structure includes creating a second binding data structure [Meltzer, Internet and local area network, col 9 lines 45-55].

9. As per claim 20, Meltzer-Bamji disclose binding the at least one second network interface to the at least one first sub-interface data structure; and eliminating the binding of the at least one second network interface to the at least one second sub-interface

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data structure [Bamji, add and remove, col 27 lines 25-45; the element filter, col 27 lines 45-54; editing user interface, col 80 lines 63-67].

10. As per claim 21, Meltzer-Bamji disclose providing respective first and second network databases associated with the respective first and second virtual network machines wherein such respective first and second databases include one or more types of control information used to manage or monitor operations, selected from the group consisting of: network (layer 3) addressing, layer 3 connections, routing, routing protocols, route filters and policies, tunneling, tunneling protocols [Meltzer, a database, col 82, lines 1-7; the router service filters, col 83, col 45-67].

11. As per claim 22, Meltzer-Bamji disclose providing respective first and second network databases associated with the respective first and second virtual network machines wherein such respective first and second databases include control information used to manage or monitor operations [Meltzer, a database, col 82, lines 1-7; monitored by programs, col 25 lines 4-14; col 26 lines 40-58]

network (layer 3) addressing, layer 3 connections, routing, routing protocols, route filters and policies, tunneling, tunneling protocols [Meltzer, a database, col 82, lines 1-7; the router service filters, col 83, col 45-67];

binding the at least one first network interface to the at least one first sub-interface data structure includes creating a first binding data structure [Bamji, binding that define the virtual interface and the sub-interfaces, col 5 lines 15-40; col 11 lines 41-

51]; and binding the at least one second network interface to the at least one second sub-interface data structure includes creating a second binding data structure [Meltzer, Internet and local area network, col 9 lines 45-55].

12. As per claim 23, Meltzer-Bamji disclose providing respective first and second network databases associated with the respective first and second virtual network machines wherein such respective first and second databases include one or more types of control information used to manage or monitor operations, [Meltzer, a database, col 82, lines 1-7; monitored by programs, col 25 lines 4-14; col 26 lines 40-58]

network (layer 3) addressing, layer 3 connections, routing, routing protocols, route filters and policies, tunneling, tunneling protocols [Meltzer, the router service filters, col 83, col 45-67];

binding the at least one first network interface to the at least one first sub-interface data structure includes creating a first binding data structure [Bamji, binding that define the virtual interface and the sub-interfaces, col 5 lines 15-40; col 11 lines 41-51]; binding the at least one second network interface to the at least one second sub-interface data structure includes creating a second binding data structure; binding the at least one second network interface to at least one first sub-interface data structure [Meltzer, Internet and local area network, col 9 lines 45-55]; and

eliminating the binding of the at least one second network interface to the at least one second sub-interface data structure [Bamji, add and remove, col 27 lines 25-45; the element filter, col 27 lines 45-54; editing user interface, col 80 lines 63-67].

13. As per claim 24, Meltzer-Bamji disclose A method of creating links between multiple subscriber end stations and multiple network domains comprising:

providing a network device including an electronic memory encoded with multiple respective virtual network machines, said respective virtual network machines including respective corresponding network databases which include respective control information that respectively imparts router functionality to corresponding respective virtual network machines [Meltzer, JAVA virtual machine, a network interface, col 9 lines 9-28; the router service filters, col 83, col 45-67; XML encoded, col 85 lines 32-35];

said respective virtual network machines respectively each including at least one respective network interface for a respective network domain [Meltzer, JAVA virtual machine, a network interface, col 9 lines 9-28; the router service filters, col 83, col 45-67; XML encoded, col 85 lines 32-35];

providing respective subscriber records in an electronic memory that include respective information as to network domains to which respective subscriber end stations of respective subscribers may access [Meltzer, all business domains, col 31 lines 60-67];

providing multiple respective sub-interface data structures in the electronic memory respectively associated with respective subscribers;

searching respective subscriber records to identify respective network domains that may be accessed by a respective subscriber end station of a respective subscriber [Meltzer, Searches a database col 27 lines 25-45; customized search engines, col 30 lines 37-52]; and

creating respective binding data structures that respectively bind respective sub-interface data structures respectively associated with respective subscribers to respective network interfaces for respective network domains identified from searching respective subscriber records [Meltzer, monitored by programs, col 25 lines 4-14; col 26 lines 40-58; a database, col 82, lines 1-7].

14. As per claim 25, Meltzer-Bamji disclose providing respective subscriber authentication information and respective subscriber authorization information in respective subscriber records [Meltzer, authorize the transaction, col 83 lines 18]; providing subscriber authentication and authorization services; and authenticating and authorizing subscriber access to respective network domains using respective subscriber records and the subscriber authentication and authorization services as inherent features of authorization.

15. As per claim 26, Meltzer-Bamji disclose the multiple respective sub-interface data structures include multiple respective virtual circuits as inherent feature of virtual machines.

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16. As per claim 27, Meltzer-Bamji disclose providing in respective subscriber records multiple possible network domain binding options for a respective subscriber [Meltzer, all business domains, col 31 lines 60-67].

17. As per claim 28, Meltzer-Bamji disclose information in respective subscriber records identify multiple respective possible network domains to which respective subscriber end stations of respective subscribers may be bound; and information in respective subscriber records provide respective criteria for selecting between multiple respective network domains for a respective subscriber [Meltzer, all business domains, col 31 lines 60-67].

18. As per claim 29, Meltzer-Bamji disclose A subscriber management system comprising:

a network device including an electronic memory encoded with multiple respective virtual network machines in the memory, said respective virtual network machines including corresponding respective network databases which include respective control information that respectively imparts router functionality to corresponding respective virtual network machines, said respective virtual network machines respectively including at least one respective network interface to a respective network domain [Meltzer, JAVA virtual machine, a network interface, col 9 lines 9-28; the router service filters, col 83, col 45-67; XML encoded, col 85 lines 32-35]

respective subscriber records in an electronic memory that include respective information as to network domains to which respective subscriber end stations of respective subscribers may be bound [Meltzer, a database, col 82, lines 1-7];

multiple respective sub-interface data structures in the electronic memory respectively associated with respective subscribers [Bamji, binding that define the virtual interface and the sub-interfaces, col 5 lines 15-40; col 11 lines 41-51];

a computer program in electronic memory that searches respective subscriber records to identify respective network domains that may be accessed by respective subscriber ends stations of respective subscribers [Meltzer, monitored by programs, col 25 lines 4-14; col 26 lines 40-58]; and

respective binding data structures that respectively bind respective sub-interface data structures associated with respective subscribers to respective network interfaces to respective network domains identified from searching respective subscriber records [Bamji, binding that define the virtual interface and the sub-interfaces, col 5 lines 15-40; col 11 lines 41-51].

19. As per claim 30, Meltzer-Bamji disclose information in respective subscriber records identify multiple respective possible network domains to which respective subscriber end stations of respective subscribers may be bound [Meltzer, monitored by programs, col 25 lines 4-14; col 26 lines 40-58]; and information in respective subscriber records provide respective criteria for selecting between multiple respective network domains for respective subscribers [Meltzer, all business domains, col 31 lines 60-67].

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Thong Vu, whose telephone number is (571)-272-3904. The examiner can normally be reached on Monday-Thursday from 8:00AM- 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Jack Harvey*, can be reached at (571) 272-3896. The fax number for the organization where this application or proceeding is assigned is 703-872-9306

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Thong Vu
Patent Examiner
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A handwritten signature in black ink, appearing to read 'Thong Vu', with a long horizontal flourish extending to the right.